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Enterprise Architecture Conference
E-Gov Institute
22 September 2004

I want to begin by thanking the E-Gov Institute for sponsoring this conference, and for inviting me to speak with you today. It is a real honor for me to offer a keynote speech on the last day of this conference designed to focus on the complexity of enterprise architecture. And a humbling experience, as well, I might add.

Throughout the course of the past two days, some of the most seasoned veterans in the country have offered you some very valuable lessons learned on the subject of enterprise architecture.

What more is there left to say? … Did I say that out loud? Isn't that what you were thinking?

You know, it has been seventeen years since John Zachman began writing about using enterprise architecture as a means of making IT and business systems work more efficiently and effectively. Since then, hundreds of other articles and books have appeared on the subject in print and on the web. It seems they've covered this very complex subject from every conceivable angle.

We live in a society that wants things made plain and simple, don't we? I'm still waiting to walk into a bookstore to find a book with a bright orange cover, titled: "*The Complete Idiot's Guide to Enterprise Architecture*." I suppose many of you have been waiting and searching, too. There's an opportunity for some enterprising soul.

Last February, I became fully engaged in the hard work of developing and implementing an enterprise architecture for the business and financial systems of the Department of Defense. I've learned a great deal in the past eight months, even though I have been involved for many years in the challenge of integrating IT systems to make them work more effectively and efficiently.

Most of my previous work has been in the military health system. It was that earlier experience that taught me one very important, lasting lesson about enterprise architecture—perhaps the most valuable one. But I'll wait a few moments to share that with you.

Before I do, let me share with you a few thoughts about designing next generation architectures for the Department of Defense, which is the subject at hand.

First, I'd like to spend a few minutes talking about the vision that we have for the Business Management Modernization Program, or BMMP, and where we are today with

respect to that vision. By doing so, I hope to give you a real sense of the <u>need</u> for a business enterprise architecture in our Department, as well as its purpose. Then, we'll get to a few lessons learned.

As the Director of the BMMP, I'm sometimes asked, "Why do we need a Business Management Modernization Program in DoD, and what do you envision it doing?"

A fair question. The Program may be new, but the challenges that it was designed to address are almost as old as our Nation.

Early in his first term as President of the United States, Thomas Jefferson wrote these words to his Secretary of the Treasury: "We might hope to see the finances of the Union as clear and intelligible as a merchant's books, so that every member of Congress and every man of any mind in the Union, should be able to comprehend them, to investigate abuses and consequently to control them."

That same hope is clearly expressed today in the President's Management Agenda. The improvement of financial accountability and business practices figures quite prominently in the PMA. As it has for many a very long time, the federal government continues striving to realize that often-elusive goal.

That's one very good reason why BMMP is necessary.

But it's not just about fixing financial records and cleaning up the books. The Department of Defense is committed to real business transformation across the board as a means of providing better-integrated support to the modern warfighter.

As you may recall, during the Iraqi Freedom Campaign, despite the overwhelming effectiveness of our fighting forces, there were frequent complaints of supply shortages, due to a rapidly advancing front, which made it difficult for supply lines to keep up. In addition, there were pay backlogs, as well as duplicate supply requisitions. We also had a $1.2 billion discrepancy in inventory shipped to the Persian Gulf, among a host of other problems to solve.

It may take years to fix our systemic problems, which are not by any means new. But we are making substantial progress today that will help fix those problems, so we don't continue to face them in the future.

We can do better. We must. Our men and women in uniform are depending on it.

We are talking about the need for an entire, strategic overhaul of the way the Pentagon does business—everything from budget planning and financial accounting down to the purchase of bolts for tanks or armored personnel carriers.

When the entire transformation process is complete, if we are successful, it will significantly reduce the transaction time for many of these business operations and may very well save the Department billions of dollars in operational costs.

The speed of this massive transformation must allow for effective change, while maintaining uninterrupted support for on-going military operations. It is important to keep in mind that DoD is one of the largest, most complex organizations in the world. We employ more personnel and our budget authority exceeds sales of America's largest corporations, including Wal-Mart, General Motors, Exxon, Ford and General Electric.

DoD is accomplishing the demanding task of transformation through the Business Management Modernization Program, or BMMP. During the past three years since the Department of Defense began the BMMP, momentum has been building steadily toward the ultimate goal of streamlining and integrating business processes and systems.

BMMP's role is to make sure that our troops, both on the ground and in command positions, are able to get just-in-time delivery of everything they need—from food and supplies to timely and accurate information—whenever they need it. We must make sure that those here in the U.S. who are charged with supporting the men and women in the field are able to do their jobs, and that military operations are never hampered in any way as a result of poor or inefficient business processes.

Our senior leadership is committed to that vision. In fact, let me quote what Secretary Rumsfeld had to say on this issue: "While our troops operate in a fast-paced world of high-tech weaponry and precision-guided munitions, the men and women who support them here at home still slog through red tape and regulations that are, in some cases, decades old...we must be as agile, flexible, and adaptable as the forces we field in battle."

So, in terms of BMMP's future impact, it's pretty simple, really – I think less lag time, more reliable and accurate information, and more money freed up for military rather than business operations is something that anyone in uniform will appreciate.

How will we do that? How long will it take? And how will we know when we're finished?

Those are very good questions. The kind the folks on Capitol Hill like to ask.

You know, it took 20 years to build the Statue of Liberty. That's twice as long as most people thought it might take.

The sculptor, Frederic Bertholdi [ber-TOLD-ee], first conceived the idea in 1866. He thought it would be great to have the statue completed in time for America's Centennial celebration to be held 10 years later. But serious problems, including a lack of sufficient funding and public interest, contributed to many delays.

In 1876, the only parts of the statue completed were the right arm of Lady Liberty and her torch. They were put on display at the Centennial Celebration in Philadelphia, so people could see what the finished product would be like. The full statue wasn't completed until 10 years later.

That's kind of what we have with BMMP. We're just beginning to see the complexity and size of the project ahead. It's not going to take 20 years for us to finish, of course. But it might take longer than any of us would like it to.

Excellence takes time.

And don't forget that most people in the US were not terribly excited about having a statue in NY harbor at the time. Hardly anyone outside of New York City even cared. It took time to get people interested in change. When they saw the arm and torch on display, they began to appreciate the statue more, because they could see what it was going to look like. Gradually, interest began to build around the country.

Ultimately, when the statue was complete, it had a transformational effect on NY harbor. Today, it's hard to imagine the skyline without it. That's the kind of change we're talking about for BMMP. <u>Transformational</u>. It won't happen overnight.

But we do have a strategy, and we do have a plan to make it happen.

Our long-term strategy is focused on five integrated activities:

- Establish and enforce an agency-wide governance process;
- Reengineer the Department's business processes using an Incremental approach;
- Incrementally build and extend a business enterprise architecture;
- Test and Implement systems solutions; and
- Reduce or eliminate redundant, outdated, and stove-piped systems using a systems review and portfolio management process.

The scope and complexity of DoD business processes and systems are too large and unwieldy to change all at once. As I mentioned, we are implementing long-term transformation activities in three major increments.

Increment 1 is focused on key financial aspects of DoD business processes: the unqualified audit opinion on consolidate financial statements, asset accountability, and total personnel visibility.

Increment 2 seeks to align acquisition practices with government and industry best practices, achieve total asset visibility and accurate valuation of assets, enhance force

management through position accountability and visibility (military and civilian), and improve military health care delivery.

Increment 3 will implement improvements to the Planning, Programming, Budgeting and Execution process, achieve integrated total force management, and improve installation management.

Although strategic change will take time, the department is taking steps to correct weaknesses and deficiencies using the discipline and methodology of financial audits. Achieving sustained unqualified audit opinions on our department-wide financial statements remains a top priority. Our overall strategy for achieving and sustaining an unqualified audit opinion is built on three interdependent pillars:

- Short Term: We'll refine and advance the financial improvement plans of the military services and defense agencies to enable them to produce auditable financial statements resulting in clean (unqualified) audit opinions.

- Mid Term: We'll audit line items on financial statements as they become ready for such an audit.

- Long Term: We'll overhaul and integrate DoD business processes and systems through the BMMP.

Each of these pillars is essential to the continued success of the BMMP in achieving its Increment 1 goals. Progress cannot be stopped or slowed on any one of them without undermining the progress of the entire transformation.

That's our strategy. But no strategy will be effective without a plan to make it happen. Our Enterprise Transition Plan has become a "living" capabilities-based document. It is central to the model of business transformation that we have mapped out. Let me show you.

[*Show slide of Transition Roadmap, and discuss general layout of the slide*].

The Enterprise Transition Plan addresses how to use an Enterprise Architecture to guide and constrain critical transformation initiatives throughout DoD. Updates to the Transition Plan will occur in accordance with our incremental strategy. The Enterprise Transition Plan (ETP) has become a "living" capabilities-based document.

The ETP represents a noteworthy improvement, because the Military Services, Business Domains and program managers will be able to see the enterprise-wide integrated picture of the current business environment, the future business environment, as well as the overarching plan to move between the two. It will also provide the Department with an integrated strategic view of all current and planned business systems. Furthermore, it will provide decision-makers with the strategy needed for cross-domain

integration, allowing them to review business system investments as part of a capability-based portfolio management process.

Since January of this year, the transition plan has enabled us to achieve several important overall milestones:

- We have developed specific BMMP Enterprise and Domain Business Transformation Metrics in June 2004. These new metrics are tied directly to goals, objectives and targets published previously. They represent the Program's first set of integrated business transformation metrics.

- As I mentioned, we implemented an Incremental approach to transformation, which allows us to prioritize and focus on the most pressing business transformation initiatives. Although the Department previously had defined Increment 1, it had not done so for the increments subsequent to it. In late March, the Steering Committee ratified the Incremental approach, and approved the scope of Increments 2 and 3.

- The Deputy Secretary of Defense issued a memorandum in March that established portfolio management policies and broadly outlined duties and responsibilities for managing IT investments across the department.

- The Department recently released Version 2.2 of the Business Enterprise Architecture, which includes an Enterprise Business Process Model, describing our end-to-end business processes; it also incorporates more than 5,000 public law requirements. I'll tell you more about these developments in just a few minutes.

Through these accomplishments, DoD has laid the groundwork for significant progress during the coming years.

Looking ahead, we will be collecting additional data from the Components on the current state and deficiencies with their systems and processes. The information collected from the Components will provide a more robust picture of the "As Is" environment. We plan to have the enterprise-level "As Is" information corresponding to each version of the BEA and expect to include it in each corresponding Transition Plan update.

To make everything that I have mentioned so far happen, as well as to keep us on track in the future, we have needed a good blueprint, if you will. Consequently, we are continuously developing and documenting a Business Enterprise Architecture, or BEA, which guides the ongoing change from the current, stove-piped conglomeration of DoD business systems into an integrated environment of re-engineered systems and processes.

As we envision it, the Business Enterprise Architecture is a blueprint of the re-engineered processes created by the participation of all our stakeholder communities. The

BEA provides a single, unified interpretation of DoD business rules, requirements and regulations relevant to each increment. It serves as an integrated blueprint to guide and constrain business IT investments and policy development, as well as change management initiatives throughout DoD.

This effort will not only dramatically improve DoD business and financial management; it also will enable DoD leaders to make fact-based resource decisions. Furthermore, it will enable the Department to meet the Chief Financial Officers (CFO) Act and other legal requirements - including auditable financial statements.

So, as you can see, we are developing an enterprise architecture because we need one, not because somebody thought it might be a good idea to have one, or to meet a requirement placed upon us by GAO. The BEA is purpose-driven. That's a very important point.

BEA 2.2 was released in July of this year. It includes the following features:

[*Show Architecture slide*]:

- An Enterprise Business Process Model (EBPM) describing the end-to-end business processes for DoD. These are augmented by the requirements, business rules and data objects required to support a sustainable unqualified audit opinion. The EBPM provides an unprecedented view of processes across the enterprise and reveals inter-domain dependencies and the constraints placed by one domain on the business operations in another.

- Version 2.2 incorporates 1,079 FASAB requirements and 4,265 public law requirements into a single, authoritative source. These requirements will drive future business system investments and configurations, and correct deficiencies needed to systemically support and sustain an unqualified audit opinion.

- It also captures the end-to-end business processes in a readable, graphical representation, and represents the To-Be operational view as a series of business steps that will be executed in sequence (i.e., processing military payroll or a contractor invoice), in response to a defined business event, to produce a specific business result. This end-to-end view identifies the commonality among DoD processes and enables DoD to eliminate unnecessary work through simplification and standardization.

- It identifies data objects (for example, payroll identification number or invoice number) that must be exchanged between process steps. This will ensure that information needed by each process is created and tracked from inception to application. This visibility will eliminate the need to issue extensive and costly data calls to re-create information due to a lack of integration between the process owner and information consumer.

- Finally, Version 2.2 corrects 13 technical architecture deficiencies identified during the Government Accountability Office review of BEA version 1.0. Moving forward, BMMP expects to finish reviewing and incorporating Increment 1 requirements into the Business Enterprise Architecture (BEA) by January. Work on Increment 2 will also begin in January.

As we all know, a blueprint is useless when it's rolled up. Somebody must take it out and use it, and then build according to its directions. So it is with the BEA.

A well-designed governance process is absolutely necessary to the success of our enterprise architecture. The governance process relies on the BEA to provide strategic direction that transcends organizational boundaries to integrate complex business processes and systems.

The BMMP's Governance structure continues to render strategic oversight to the entire program, characterized by a commitment to the quality and timeliness of transformation, as defined by the Program Baseline, which I'll tell you more about in just a few minutes. The governance plan already has demonstrated that it is working, and it continues to advance. That is paramount to our continued success.

The governance structure divides activities into business domains, and designates an Under Secretary of Defense (USD) as a Domain Owner to oversee each area. Domain Owners are responsible for guiding and implementing the transformation of business activities managed by the Military Services and other DoD components. They employ a portfolio management process to govern investments in information technology and to ensure full integration of all DoD business processes and systems.

In order to optimize the DoD business environment, business processes in use today must be evaluated and re-engineered. Each day, the Business Process Modeling and Reengineering (BPMR) effort is helping to manage the transition of legacy systems. One example of BPMR is our successful effort of adopting a Department-wide Standard General Ledger as published by the Department of Treasury.

Testing thousands of business solutions is an important part of the overall strategy for the BMMP. Testing mitigates risk and helps ensure that systems operate in accordance with the BEA. During the past several months, work has proceeded to develop a department-wide test strategy for BMMP. It is being designed to ensure that the BEA is effective, suitable, and sustainable.

Throughout DoD, thousands of processes, legacy systems and system interfaces are in need of a complete overhaul to fully implement the BEA and transform problematic DoD business practices. Management of this degree of complexity requires strict configuration control to assure uniformity of operation, and involves assessment and reevaluation of processes, policies and roles across DoD. As you can imagine, change of this magnitude must be accomplished with the help of a host of collaborators.

In March 2004, using Domain subject matter experts, BMMP defined the Enterprise Business Process Model (EBPM) to depict the DoD end-to-end processes at the enterprise level. Previous views of business processes were generally restricted to a single business process owner. The EBPM identifies various process steps and their respective owners, across the entire enterprise, regardless of traditional business boundaries.

As part of the Increment 1, BMMP convened teams of subject matter experts from all business areas that identified approximately 189,000 requirements that DoD must review and evaluate to determine if relevant for inclusion in the BEA. Sources reviewed included Federal Accounting Standards Advisory Board (FASAB) requirements, Joint Financial Management Improvement Plans (JFMIP) requirements, public law requirements, Office of Management and Budget (OMB) regulations, and DoD regulations.

The teams undertook an aggressive review of nearly 35,000 requirements from public law and FASAB for inclusion in BEA Version 2.2. Of those, more than 5,000 were considered financially relevant and mapped to the EPBM. The remaining 29,648 will be considered and mapped in subsequent increments. The teams will next review 123,000 requirements from the other sources and determine which to include in future BEA releases that support Increment 1.

Excellence takes collaboration.

The BMMP governance process is continuing to mature. Our Domain Owners Integration Team (DO/IT) meets weekly to discuss and resolve difficult organizational issues concerning the Department's business operations. Our Steering Committee meets at least monthly to ratify decisions made by the DO/IT and provide strategic direction. All governance bodies are developing coherent policy and making key decisions necessary to the program's success.

The Steering and Executive Committees are part of the approval process for accepting version 2.2 and subsequent releases of the BEA. Each governance committee is integrated fully to ensure the department truly maintains a joint business-operating environment.

In the past year, we've made significant strides along the way toward more effective governance. For example, in June the BMMP Steering Committee approved the Department's initial set of coordinated cross-domain metrics that include business transformation goals, objectives, measures and targets for each Business Domain.

The Steering Committee also approved new criteria, which provide acquisition program managers of business systems a list of critical criteria to consider for comptroller certification. The criteria will allow the program managers to determine if their systems are in line with the Department's business transformation strategy, and to ensure compliance with Section 8084 of the Defense Authorization Act of 2004. Clearly defined

criteria allow program managers to better understand public law requirements. These criteria will continue to evolve as the BEA becomes more mature.

We also approved a Program Baseline Framework, which I'll talk about more in a minute. The framework is multi-tiered and defines the scope and responsibility of the BMMP program office, the business domains, the service business integration offices and individual program managers of future and legacy systems. The framework will allow the department to manage and measure by baseline and enable improved progress reporting to Congress and other stakeholders.

The Program Baseline consists of the following five levels of effort, which are illustrated on this slide:

[*Show Program Baseline Framework slide.*]

(1) The Business Modernization and Systems Integration (BMSI) Office, which has been designated as the BMMP Program Management Office;

(2) The Business Domain Program Baselines, which coordinate functional BMMP issues (Accounting & Finance, Acquisition, Human Resources Management, Installations & Environment, Logistics, Strategic Planning & Budgeting, and the Enterprise Information Environment Mission Area);

(3) The Military Service and Defense Agency architecture integration programs and offices, which coordinate the BMMP efforts within their respective Components;

(4) The individual Component Program Management Offices from which BMMP-related business process reengineering and transformed IT system solution acquisitions are managed, plus total cost BPR, plus total cost IT solutions; and

(5) The individual Component Legacy System Offices from which existing business IT systems are managed, as well as the cost of running the systems themselves.

The combination of each of these five levels of effort equate to the overall enterprise-level BMMP Program Baseline for DoD.

Excellence takes directed effort.

The Department is working to refine the management strategies and the program documentation necessary for each level of the BMMP Enterprise Program Baseline. There are significant differences in management responsibilities among the organizations that compose BMMP. Therefore, the management strategies and program documentation for each level are critical to documenting these differing responsibilities. We anticipate that management documentation for each level will include, at a minimum:

- Governance body charters,
- BEA Development Methodology,
- Strategic Plans,
- Acquisition Strategies, and
- Transition Plans
- Cost and schedule estimate baselines
- Data Strategy

The Department also has been working to establish a more comprehensive inventory of over 4,000 DoD business systems requiring transition to the "to be" environment. Steady progress continues in correcting material weaknesses and controlling business system investments.

Portfolio management is a critical part of our business transformation strategy. Our ultimate goal is to use the Business Enterprise Architecture as a single authoritative interpretation of requirements to drive our business system investments, and configure commercial-off-the-shelf software packages, such as enterprise resource planning systems, and legacy systems.

However, we are not waiting for the BEA to fully mature before implementing portfolio management. We are taking short-term steps to gain tighter control of our business system investments in the FY 2006 and subsequent budget processes.

DoD needs strong portfolio management to gain better control of our business IT investments. Equally important, is the need to develop a clear understanding of portfolio management processes and policies, and a clear linkage between portfolio management and the planning, programming, budgeting and execution process. BMMP is making progress in all these areas, which is in large part a refection of the integrated governance model we have built.

Making progress is one thing. *Measuring* progress is as important as it is difficult. As I mentioned earlier, the Steering Committee approved an integrated set of initial baseline DoD Enterprise and Domain business transformation metrics with which to begin data collection and reporting in June.

The plan to collect and report progress against these metrics and targets is on track to begin in the current quarter. BMMP will continue to build and integrate metrics that support enterprise wide reporting.

There are some other real indicators of progress, too. For example, the Navy is moving very quickly towards what is called a converged enterprise resource planning system for the entire Department of the Navy. Air Force is planning to go with a single enterprise resource planning system for the entire Department of the Air Force.

I think these changes are coming about because of the recognition, not only of the importance of transformation, but the importance of achieving that transformation

through structured collaboration, without which the transformation can't happen. We are seeing significant change actually already.

We have achieved some very significant accomplishments in each of the key elements of the Business Management Modernization Program, especially as I have observed it during the past few months. A clear strategy and carefully designed Business Enterprise Architecture, supported by a detailed Transition Plan, have provided clear direction toward the distant goal of more effective and efficient business processes and systems for the Department of Defense.

Effective business transformation takes time. It takes collaboration. And it takes directed effort.

We are leveraging expertise from our own subject matter experts and industry to capture business rules, standardize data elements, document information exchanges and integrate business processes in a single, authoritative source, the Business Enterprise Architecture. Our efforts will result in a single interpretation of requirements that will enable the Department of Defense to build business systems that provide meaningful management information.

I promised earlier to share with you some of the lessons that we have learned along the way.

Well, I would say first and foremost, clearly established objectives stated in terms of the business of the organization are absolutely important. And by the business of the organization, I mean finance and accounting objectives, or buying systems, or delivering supplies to our fighting forces. Whatever those functional objectives are, they have to be clearly stated and broadly understood in order to find a transformation objective.

Next, I would mention the importance of program management discipline. Of course, in DoD, I believe we have a very strong culture of program management. Some of the challenges are actually applying that culture properly and fully to this or other initiatives. But that program management discipline leads to a very clear depiction of what one's accountable for with respect to deliverables, with respect to cost, and with respect to schedule. I just don't think there's any way around the program management discipline to get things done. It is how the Department has gotten things done so effectively for years, and it's an important technique with respect to achieving a transformation objective as well. But it's especially important with respect to managing complexity on the scale of BMMP.

Also, I would say in any transformational activity that I've been involved in, this one or smaller ones, the balance of patience and impatience is extremely important. You have to be both at any given moment and on any given day, and you have to appreciate both patience and impatience at any given moment on any given day. Both help the program. The right amount of patience because of the complexity is very important. On

the other hand, the right amount of impatience to keep driving change is also equally important.

Let me also stress the importance of quick wins. As important as a good strategy and solid planning are, you can't allow the strategy to get in the way of effective tactics. Don't let the great be the enemy of the good.

Finally, and most importantly, is a lesson that I learned a while ago, while I was dealing with the issues of transformation and enterprise architecture on a smaller scale in the military health care system. Enterprise architecture is not simply about making IT systems or business processes work better. It is about making them work better for people. We shouldn't forget that.

But sometimes we do. And in the most difficult moments, in the midst of the most complex issues, it is easy to succumb to the cynical voice that wonders whether the effort that we are expending will ever make a difference. Some of you may remember that Will Rogers once said, "Things will get better, despite our efforts to improve them."

But things are getting better.

Excellence takes time. It takes collaboration. It takes directed effort.

I can assure you that the leadership of the Defense Department is committed to making things better. We are promising to deliver and we want to be held to our promises.

We are committed to a course of action that provides the people of our armed forces with the state of the art, interoperable business systems they deserve.

And, despite Mr. Jefferson's fervent hope "to see the finances of the Union as clear and intelligible as a merchant's books," the most compelling reason to design next generation architectures for the Department of Defense is our commitment to the next generation of America's warfighters.

Thanks very much.